ENERGY EFFICIENCY
POSITION PAPER

Introduction

Lift and component manufacturers of the European lift industry are fully aware of the escalating costs of all forms of energy and its adverse effect on the global environment. The demand for more energy is constantly increasing as the social, economic and living standards of nations throughout the world continue to increase. This at a very rapid pace in many countries, including the recent new members states of the EU. Such demands have dramatically increased the awareness of the need for a drastic reduction of energy consumption wherever it is used. In most buildings, the energy used for lighting, heating and ventilating; operating computers and security systems, etc. can be significant. Every effort must be made to keep the energy use in buildings to a minimum.

Lifts, escalators & moving walks at this time typically represent 3 to 8 % of the energy consumption of buildings, depending on the structure and usage of the building, the type and number of lifts and escalators used. As technological improvements are made to save energy in other building systems, the proportion of energy consumed by lifts & escalators will increase if nothing is done.

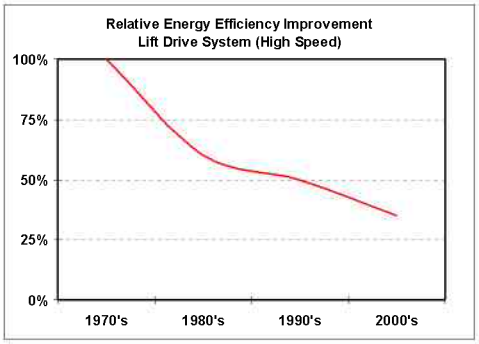
The lift & escalator industry has always been aware of the need to conserve energy but the issue gained momentum in the last few years, where global initiatives such as the Kyoto agreement, and recent EU Directives has clearly shown the need to further reduce energy consumption. In the energy field, good economy also clearly means good ecology and the development of sustainable systems, using as little energy as possible, which is greatly appreciated by building owners and ultimately society at large.

Improvement trends in recent times

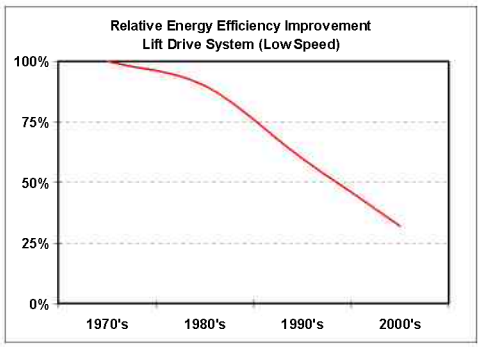
Since the 1960's, in the course of the last 40 years, the energy consumption of both electrical and hydraulic lifts has been significantly reduced. In practice, lift drive systems energy consumption has actually been reduced by up to two thirds. This has been achieved by applying innovations in hardware and software technologies as well as in materials.

In the area of electric traction lifts, the latest innovations of machine-room-less technology, permanent magnet gearless machines, Variable Voltage Variable Frequency (VVVF) drives, energy feedback to the mains (regenerative drives) and ever improving lift traffic handling systems, have had a significant effect on reducing energy consumption.

Similarly, hydraulic lifts which were traditionally regarded as high energy users have also benefited significantly from technology advances in the areas of counterbalancing, VVVF drives, pulling cylinders and energy storage and accumulation systems.



Dominant Technology
1970's: DC Motor with Rotating Generator*
1980's: DC Motor with Static Converter
1990's: AC Gearless Motor "VVVF"
2000's: Permanent Magnet Motor "VVVF"
** Base of Comparison*



Dominant Technology
1970's: Hydraulic and Geared AC "On-Off"*
1980's: Hydraulic and Geared AC "VV"
1990's: Geared AC "VVVF"
2000's: Gearless "Permanent Magnet + VVVF"
** Base of Comparison*

Although the energy performance of drives systems has reduced considerably, improvement in safety, accessibility, comfort and performance of lifts and escalators has increased energy consumption when the lift is idle. The industry are increasingly addressing this issue and paying special attention to other energy consuming equipment, such as car lighting, ventilation, and standby power consumption, without affecting the safety or comfort level provided.

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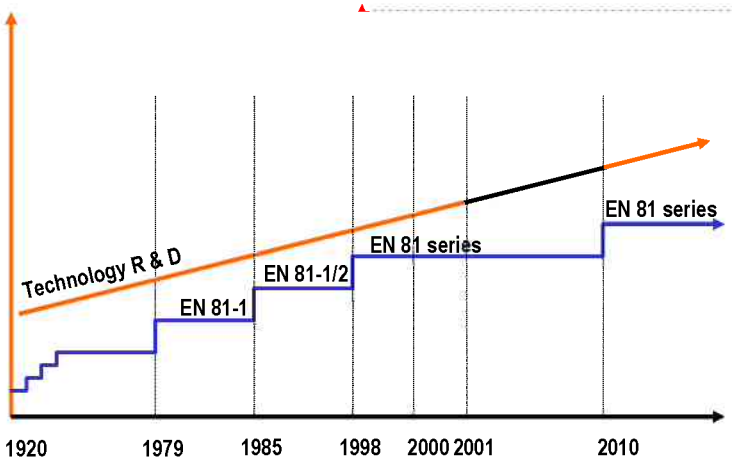

Step by step improvement of safety & accessibility of lifts

Legal aspects

Despite the fact that European Directives such as 2002/91/EC on "the Energy Performance of Buildings (EPB)" and 2005/32/EC "framework directive on Energy using Products (EuP)" do not stipulate anything for lifts, escalators and moving walks, the lift & escalator industry is dealing proactively with the issue and is increasingly working to minimize the energy consumption of its products.

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ELA position and recommendation

In publishing this Energy Efficiency **POSITION PAPER**, ELA declares the principles that its members should follow, with the aim of minimizing energy consumption of lifts, escalators & moving walks in line with the sustainability policies adopted by the European Union.

Though lifts, escalators & moving walks are not mentioned specifically in the EU Directives, ELA, in the name of its members, supports the integration of the environmental and sustainability concerns into product development, manufacturing, installation and maintenance activities.

ELA also supports and actively participates in standardisation activities of ISO (International Organisation for Standardization) and CEN (European Committee for Standardization) to develop standards that will address energy efficiency issue.

ELA actively participates and contributes to debates and discussions on energy efficiency with regulatory institutions and other stakeholders in the market place.